INSTRUCTOR'S MANUAL

Articulatory Phonetics: Advanced Version

LEVEL 1: Single-Syllable Words

A guide to pronunciation and the International Phonetic Alphabet, featuring all formats in the Level 1 *Articulatory Phonetics* series

Cheri Montgomery

S.T.M. Publishers
Nashville, TN

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PREFACE

Articulatory Phonetics: Advanced Version teaches proper pronunciation and the formation of English speech sounds using the International Phonetic Alphabet (IPA). Intended for university-level coursework, its concepts are applicable across multiple disciplines, including speech-language pathology, vocal performance, and linguistics.

The *Advanced Version* complements other workbooks in the *Articulatory Phonetics* series, which feature the same word lists but use a simplified phonetic system for early reading and pronunciation instruction. These versions are designed for students in fields such as special education and English language instruction.

Although the workbooks share closely related content, each version serves a distinct instructional purpose. *Articulatory Phonetics: Advanced Version*, Level 1 focuses on clarity of speech. Detailed images of the vocal tract, presented in midsagittal and anterior views, illustrate the formation of each vowel and consonant sound. The rule pages provide thorough descriptions, accompanied by diagrams showing articulatory formations and airflow pathways. Audio is included.

The instructor's manual for *Articulatory Phonetics: Advanced Version* (this text) contains the instructional content for all four formats in the series: braille phonetics, signed phonetics, advanced phonetics using the International Phonetic Alphabet (IPA), and accessible phonetics. Answer keys for all four formats are included in the appendix.

The *Articulatory Phonetics* series is the teacher-focused companion to *Reading and Phonetics*, a corresponding series designed for students ages 10 and up. The prefaces to all four formats of the pre-college *Reading and Phonetics* series appear below.

***Reading and Phonetics* series**

Today's middle and high school teachers serve students with diverse abilities and language backgrounds. How can a single curriculum address such a wide range of learning needs? This series enables all students to participate in the same lesson while supporting individual learning needs through four parallel workbooks created for students, parents, and teachers who are new to:

- braille
- manual signing and lipreading
- English language learning
- articulatory phonetics

Each workbook contains the same carefully ordered selection of words, phrases, and sentences. All exercises include only the sounds and spellings previously introduced. Sentences are deliberately constructed to avoid predictability and prevent guesswork. The intentional design supports early literacy development and proper pronunciation, while the separate formats enhance accessibility for students with distinct learning needs.

The parallel books provide unique instructions for:

- tactile training in braille with audio examples for those learning through touch and hearing
- manual-visual learning through signing and lipreading for those who rely on visual communication
- visual articulatory study using front and midsagittal views of the vocal tract with audio examples for those developing clarity of speech
- visual definition of vocabulary through carefully selected images with audio examples for those acquiring English in the multilingual classroom environment

Level 1 covers the spellings and phonetic transcriptions of single-syllable words. Level 2 expands the vocabulary of single-syllable words, includes words with diphthongs, and provides additional opportunities for phonetic transcription. Level 3 includes multisyllabic words.

Reading and Phonetics: Tactile Alphabet focuses on braille reading. The visual version gives sighted parents and teachers the ability to learn Grade 1 braille alongside the student. Teacher's notes and audio are included. A hard copy tactile version is available on the student order page at *www.teamphonetics.com*. The tactile version is published in two parts: textbook and workbook. The

textbook contains spelling rules, phonetics, and reading assignments. The workbook contains phrases, sentences, and a short story.

- Tactile textbook: ISBN 979-8-9878102-1-7
- Tactile workbook: ISBN 979-8-9878102-2-4

Reading and Phonetics: English Language Learners (ELL) focuses on exploring the unique attributes of the English language. The instructional pages provide thorough descriptions of each sound, accompanied by diagrams showing articulatory formation and the airflow pathway. QR codes provide access to translations of the instructional content in 10 languages. Audio examples support pronunciation, while visual definitions of words and phrases assist students learning in the multilingual classroom. Parts of speech and verb tense indications are included using the following symbols:

Grammar Indications			
noun	Ⓝ	preposition	Ⓡ
verb	Ⓥ	conjunction	Ⓒ
adjective	Ⓐ	interjection	Ⓘ
adverb	Ⓓ	determiner	Ⓣ
pronoun	Ⓟ	past tense	⧗

Reading and Phonics: Articulation focuses on clarity of speech. Detailed images of the vocal tract, presented in midsagittal and front views, illustrate the formation of each vowel and consonant sound. The instructional pages provide thorough descriptions of each sound, accompanied by diagrams showing articulatory formation and the airflow pathway. Audio examples are included.

Reading and Phonetics: Manual Alphabet focuses on fingerspelling and an introduction to lipreading. A structured fingerspelling system with phonetics supports the development of lipreading skills. Phonetic symbols are signed near the mouth. This placement assists lipreading by visually positioning phonetic symbols beside the articulators. Because lipreading alone cannot distinguish between voiced and voiceless consonants, this newly designed system provides an added visual cue to represent the contrast.

Vertical location is used to indicate the letter case required for the simplified phonetic system developed for this group of learners. Uppercase letters are signed near the forehead, while lowercase letters remain at mouth level. This distinction also separates the conventional spellings of words (signed at chest level) from the phonetic system used for lipreading (signed near the mouth).

While both series contain the same word and phrase lists, the *Articulatory Phonetics* series offers a more rigorous approach.

Because the linguistic core is identical, all student groups can participate in the same lesson plan while engaging through the pathway best suited to their learning needs. Audio recordings of each sound, as pronounced in multiple languages, further strengthen comparison and deepen phonetic awareness. Additional sensory associations, including scent, touch, taste, and sound, provide alternate avenues for learning when visual or auditory cues are limited.

Students are encouraged to sing their words as a way of developing clarity of speech. Singing slows the articulatory process, allowing vowels to be sustained and consonants to be articulated with energy and clarity.

The decision to offer this approach originates from more than two decades of experience teaching lyric diction at the Blair School of Music at Vanderbilt University. The concepts have been refined and shared through presentations for the National Opera Association, the National Association of Teachers of Singing, and the International Congress of Voice Teachers.

From this research emerged a phonetic system first developed for braille readers, now integrated throughout the series. Each workbook offers a simplified and accessible approach to the International Phonetic Alphabet (IPA). The symbols are placed between brackets to distinguish phonetic content from conventional spelling. A conversion chart listing the standard IPA symbols alongside the simplified version is provided on the following page.

The resources needed to create the exercises in this series originated from research developed for the *Lyric Diction Workbook Series* and the IPA Scramble game app by Montgomery. Computer-based search tools and a database of more than 87,000 English words with phonetic symbols were

used to organize a graded approach to learning English spellings and phonetics.

This workbook follows the Moore teaching model, an interactive approach to instruction developed by mathematician Robert Lee Moore. The system was first implemented at the University of Pennsylvania in 1911. His methodology engages students in the learning process by giving each class member the opportunity to present individually assigned work.

Each class meeting follows a consistent routine. Students begin by presenting a written transcription assignment from one of twelve phrases provided in each unit. The instructor introduces new material in a brief lecture, followed by a guided phonetic reading activity. Finally, each student receives a unique phonetic assignment to prepare and present in the next class meeting. The twelve exercises in each unit are also suitable for independent study.

ABOUT THE AUTHOR

Cheri Montgomery is an author and lecturer specializing in voice and diction. She teaches voice and English, Italian, German, French, Latin, Spanish, and Russian lyric diction at the Blair School of Music at Vanderbilt University. This series is used in her articulatory phonetics course designed for Vanderbilt University students majoring in voice, speech-language pathology, communication, or special education.

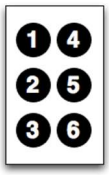
Phonetic Conversion Chart								
IPA	Simplified	Example	IPA	Simplified	Example	IPA	Simplified	Example
[æ]	[a]	hat	[k^h]	[k]	cake	[θ]	[th]	thing
[ɑ]	[A]	father	[ɬ]	[l]	little	[ð]	[Th]	this
[b^h]	[b]	baby	[m]	[m]	meme	[u]	[u]	moon
[ʧ]	[tS]	chair	[n]	[n]	note	[ʊ]	[U]	book
[d^h]	[d]	dance	[ŋ]	[N]	sing	[ʌ]	[x]	up
[ɛ]	[E]	bed	[ɔ]	[O]	ought	[v]	[v]	vase
[f]	[f]	fig	[p^h]	[p]	pin	[w]	[w]	win
[g^h]	[g]	good	[ɹ]	[r]	ring	[j]	[j]	yes
[h]	[h]	heart	[ɜ]	[R]	earth	[z]	[z]	zoo
[i]	[i]	seat	[s]	[s]	cease	[ʒ]	[Z]	beige
[ɪ]	[I]	fit	[ʃ]	[S]	shirt	stress: [ˈ]	[']	be'lieve
[ʤ]	[dZ]	judge	[t^h]	[t]	time	glottal: [ʔ]	[?]	I, ever

INTRODUCTION TO THE TACTILE VERSION

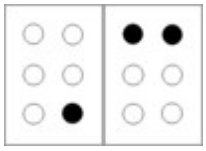
I am grateful for braille instruction from Steve Norman, braille/technology instructor at the Tennessee Rehabilitation Center. He assisted with research that culminated in articles published by the National Association of Teachers of Singing, *Journal of Singing*; *MultiBriefs*; and *Vanderbilt University News*. He was instrumental in testing the Kindle version of three diction workbooks written for singers with blindness. His willingness to share his expertise and extensive experience with the braille system and associated technology is much appreciated.

INTRODUCTION TO BRAILLE

Braille is a tactile writing system created in 1824 by Frenchman Louis Braille. Each braille character consists of a cell with raised or lowered dots. Characters are distinguished by the number and arrangement of raised dots within each cell. The six dots are organized in two columns. There are three dots in the left column and three dots in the right column (imagine a 2x3 Lego brick). The dots are numbered counting from top to bottom starting with the left column.

Braille Cell 

Each braille cell is assigned a number name according to the dot configuration within the cell. For example, the braille symbol for *c* is named dots 14 (dots 1 and 4 are raised for the braille representation of *c*). Uppercase letters are indicated by placing a braille dots 6 before the letter. The braille representation for uppercase C is a dots 6 cell followed by a dots 14 cell.

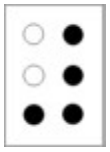


Braille consumes a lot of space. Certain characters require more than one cell. The 6-dot cell system is used for reading, math, and music. The 8-dot cell system provides an extension. A third row of dots reduces the line by including additional information, like capitalization, beneath the cell (imagine a 2x4 Lego brick).

There are three levels of encoding for English braille. Grade 1 provides a letter-by-letter representation of any given spelling, grade 2 includes abbreviations and contractions, and grade 3 contains various symbols that can be customized to suit the individual needs of the user. This text provides a study of grade 1 braille.

PATTERNS IN BRAILLE

Braille is an intuitive system designed for easy memorization of symbols. Braille letters of the alphabet correspond with numbers: *a* is 1, *b* is 2, *c* is 3, *d* is 4, *e* is 5, *f* is 6, *g* is 7, *h* is 8, *i* is 9, and *j* is 0. A numeric indicator precedes a braille number to distinguish it from a letter of the alphabet. The numeric indicator is a dots 3456 cell.

Numeric Indicator # 

The braille alphabet follows a pattern. The raised dots for letters *a* through *j* are similar to letters *k* through *t* (an added dots 3 distinguishes *k* through *t*). The raised dots for letters *u, v, x, y,* and *z* are similar to letters *a, b, c, d, e* (an added dots 36 distinguishes *u, v, x, y,* and *z*). Notice that the letter *w* was not included. It was omitted by Braille since *w* is not a spelling of the French language. The letter *w* is a dots 2456 cell.

The pedagogical approach of this text is based on a a newly created phonetic system that consists of uppercase and lowercase letters. Letters *a, i, b, d, g* are introduced first since they produce a sufficient word bank and complimentary phonetic study. The remaining letters are introduced incrementally to align with the accessible phonetic system and the spellings of words.

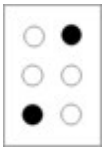
LEARNING TOOLS

Use a 2x3 egg carton and ping pong balls to recreate braille symbols. Lego bricks also provide excellent learning aids. Purchase a 32x16 base plate, 30 2x4 bricks, and 100 1x1 round dots. Recreate the braille cells using the 1x1 bricks for dots and 2x4 bricks for cells (the bottom row should remain blank). Place the cells in alphabetical order on the base plate (a through *j* on row 1, *k* through *t* on row 2, and *u, v, x,*

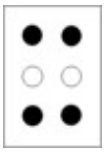
y, z, w, on row 3). After the letters are memorized in alphabetical order, remove the cells from the base plate, place them in a sandwich bag, and select randomly to test your memory.

SPECIAL SYMBOLS

There are three symbols needed to navigate the braille portions of this text: the numeric indicator, the forward slash, and the letter *x.* The numeric indicator helps the reader identify numbers (see examples on the right side of this page). A forward slash is placed on either side of phonetic symbols.

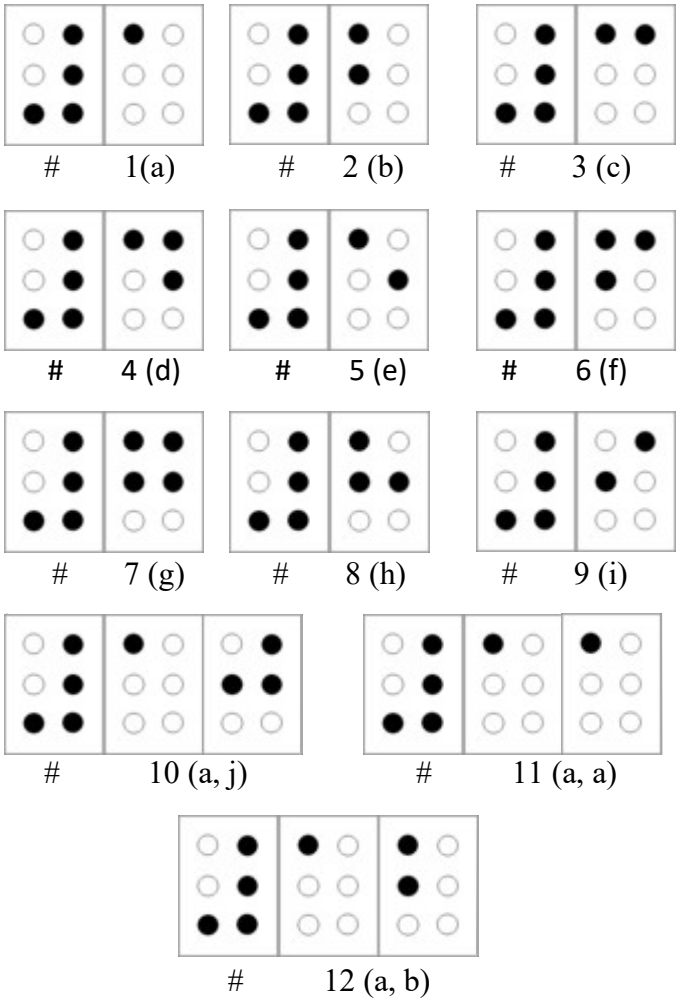
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The letter *x* acts as a place marker or tracking line for discovering new braille symbols. The dot configuration of an *x* cell marks the outer boundaries of a cell. Imagine the typed version of an uppercase *X* with dots at the ends of each diagonal line. A braille *x* is dots 1346. This arrangement of dots provides an ideal tactile reference point for other braille symbols.

x: 

A line with a group of *x* cells is used to create a tracking line. It indicates the beginning of an exercise. A number between two groups of *x* cells indicates a new line of an exercise.

Students in a group learning environment should memorize the braille number associated with their individually assigned homework. Students may locate their assignment by searching the lines that contain a group of *x* cells (dots 1346) followed by the numeric indicator (dots 3456), the exercise number, then another group of x cells. Note the braille symbol for each number: 1 is dots 1, 2 is dots 12, 3 is dots 14, 4 is dots 145, 5 is dots 15, 6 is dots 124, 7 is dots 1245, 8 is dots 125, 9 is dots 24, 10 is dots 1 and dots 245, 11 is dots 1 and dots 1, 12 is dots 1 and dots 12.



CONTENT NOTE

Unique instructional tools are provided on the first page of each unit. Every letter of the braille alphabet has a scented, tactile, taste, and sound association with topics to discuss. QR codes provide audio links to American and British pronunciations of the phonetic symbols.

CM

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UNIT 1:

Spellings and phonetic symbols:

a [æ], i [ɪ], b [b^h], d [d^h], g [g^h]

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Vocabulary for the phonetic test following this unit:
www.stmpublishers.com/level1vocab

INSTRUCTIONAL TOOLS

THE SOUNDS OF ENGLISH

Speech sounds consist of two groups. *Vowels* are formed with an open flow of air. *Consonants* are formed with a narrowing of the airflow pathway.

SINGING

Students are encouraged to sing the practice lists. Singing is elongated speech. Vowels are sustained in song. This provides time for careful examination of each formation. Consonants quickly introduce or finalize the vowel sound in song. This provides opportunities to explore energetic articulation.

CONSONANT CLASSIFICATIONS

Voicing. Consonants are classified according to voicing. Voiced consonants can only be sung. Place your fingertips on your throat (Adam's apple) and feel the vibration that occurs during the articulation of a voiced *z* or *m*. Voiceless consonants can only be whispered. Notice how the throat is still during the articulation of a voiceless *s* or *f.*

Point of articulation. Consonants are classified according to point of contact. The lips contact for bilabial *b, p,* and *m*; the inside of the lower lip contacts the upper front teeth for labiodental *f* and *v;* the tongue tip contacts the edge of the upper front teeth for dental *th;* the tongue tip contacts the alveolar ridge for alveolar *d, n, t, l, s, z,* and *r* (the tongue tip contacts the upper front teeth during articulation for the Romance languages); the tongue arch rises toward the hard palate for prepalatal *sh*; the tongue arch contacts the soft palate for velar *g* and *k*; and the vocal folds draw near for the articulation of glottal *h.* A glottal stop is the grunt like sound made before the articulation of an initial vowel word (as in the words *eye, it,* and *ever*). The glottal stop does not exist in the Romance languages.

Airflow. Consonants are classified according to the manner of airflow. The breath flows though the nasal passages for *m*; it flows laterally over the sides of the tongue for *l*; it flows up for retroflex *r*; it glides past the articulators for *w*; and it flows with friction for *v* and *s.* Consonant articulation either stops or continues. A stop is formed by constricting and releasing the airflow. The contact between the articulators is released with a mix of air and vocalized tone for *b, d, g.* The contact between the articulators is released with a puff of air for *p, t, k*. This breathy quality is not present in the Romance languages. Non aspirate stops are called plosives. A plosive consonant releases directly into the vowel sound. The remaining consonants are continuants. They maintain a consistent flow of air as in *s* or *n*.

VOWEL CLASSIFICATIONS

Tongue arch. Vowels are formed with the tongue tip touching the lower front teeth and the front or back arching toward the palate. The tongue arches toward the front of the mouth for [i] as in *meet* and toward the back of the mouth for [u] as in *boot.* There are also degrees of arching. The tongue forms angles (like the slope of a roof) which can be steep, moderately steep, or mildly sloping. The degree of arching is most clearly depicted using a side view image of the vocal tract.

Tongue shape. Vowels are paired according to two shapes of the tongue: peak or furrow. It can fold in half forming an arch shape (peak) or it can fold in half and lower in the middle to form a furrow. The furrow runs from the tip to the back of the tongue. One English vowel has a flat shape. The tongue lays on the floor of the mouth for *uh* as in *up.* The *uh* vowel can be compared to any other vowel to feel the difference between various vowel formations.

The first three units of this workbook introduce the consonant stops. The first 12 units of this workbook introduce the most frequently occurring vowel sounds: [æ] as in *hat* and [ɪ] as in *sit*. The formation of these sounds is uniquely English and requires study for those new to the language.

PHONETIC SYMBOLS

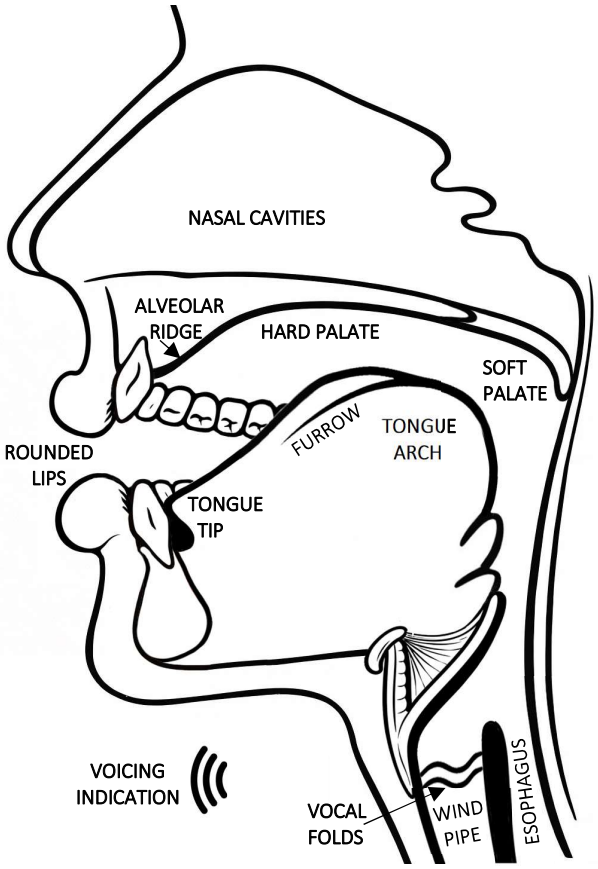
Understanding the correlation between spelling and pronunciation is vital to literacy. The International Phonetic Alphabet (IPA) provides one phonetic system for all languages. The other texts in this series use a modified version of the IPA that is ideal for beginning readers and students with distinct learning needs. In those versions, upper and lowercase letters are used to represent each vowel and consonant sound. Phonetic symbols are enclosed in brackets.

THE VOCAL TRACT

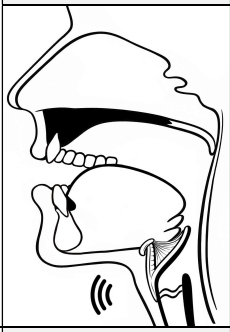
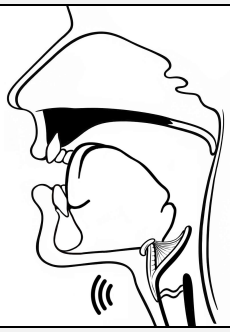
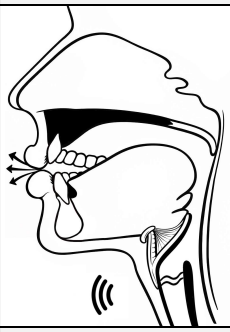
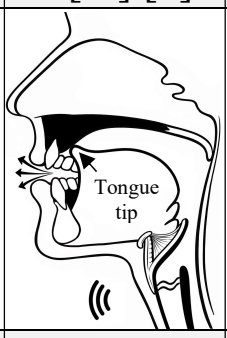
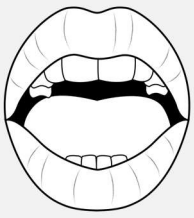
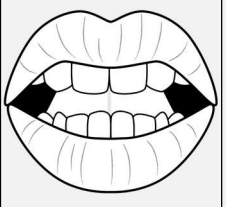
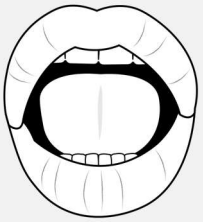
Image Key

The midsagittal (side-view) images created for this text contain intricate detail. The lips may be rounded or unrounded, positioned together or apart, to indicate various vowel or consonant formations. The soft palate may be lowered or elevated to indicate nasal or oral airflow. The tongue tip may draw near or contact the teeth or alveolar ridge for various consonant formations. The tongue may arch toward the front or back of the mouth in varying degrees, with or without a furrow, for particular vowel formations. The voice may be engaged or silent during articulation.

Voiced consonants are indicated by a sound bar and two jagged vocal fold lines. Voiceless consonants are indicated by two straight vocal fold lines. A large-scale version of the vocal tract is provided for each formation on the instructional pages. Trace the flow of air, paying close attention to the position of the lips, tongue tip, tongue arch, tongue sides, soft palate, and voicing.



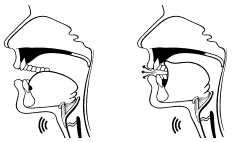
INSTRUCTIONAL TOOLS

	a [æ]/[a]	i [ɪ]/[I]	b [b^h]/[b]	d [d^h]/[d]	g [g^h]/[g]
MIDSAGITTAL VIEW AUDIO					
FRONT VIEW					
ARTICULATION INSTRUCTIONS	The tongue tip touches the lower front teeth while the front of the tongue forms a mildly sloped arch.	The tongue tip touches the lower front teeth while the front of the tongue forms a steep arch. The middle is lowered to form a furrow.	The lips lightly contact while the tongue tip touches the lower front teeth. Vocalized tone is released with aspiration.	The tongue tip touches the alveolar ridge. Vocalized tone is released with aspiration.	The tongue tip touches the lower front teeth while the back contacts the soft palate. The tone is released with aspiration.

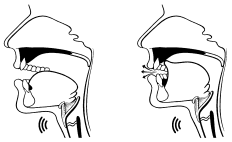
SYMBOLS AND SPELLINGS

Place the correct phonetic symbol in front of each formation:

1. ab 

2. ad 

3. dad 

4. add 

5. bad 

6. dab 

7. bag 

8. gag 

Articulatory Awareness

Shade in the tongue for vowels.
Shade in the lip formation for [b^h].
Shade in the tongue tip for [d^h].
Shade in the soft palate for [g^h].

Transcription notes

Transcription is the process of converting the spelling of a word into its pronunciation using phonetic symbols.

Phonetic symbols are enclosed in brackets. Each symbol represents one vowel or consonant sound.

Consonants that are doubled in spelling are not doubled in transcription. Silent vowels or consonants are not transcribed.

A glottal stop precedes a word that begins with a vowel. A glottal stop has a grunt-like sound. The International Phonetic Alphabet symbol for a glottal stop is [ʔ].

9. gab 

10. bib 

11. did 

12. bid 

13. gig 

14. big 

15. dig 

16. Gib 

PRESENTATION EXERCISE

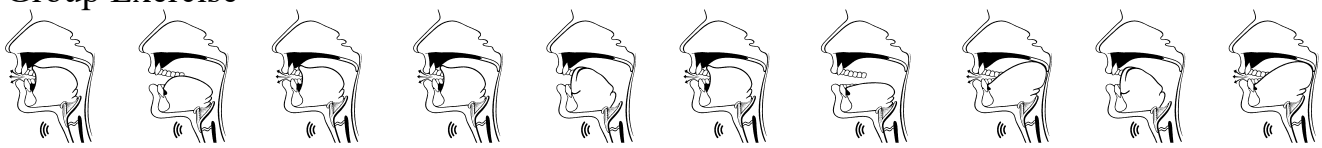
Provide phonetic symbols and intone the following words for the class:

1. dad	4. bag	7. dab	10. did
2. gag	5. dig	8. big	11. add
3. bib	6. bid	9. bad	12. gab

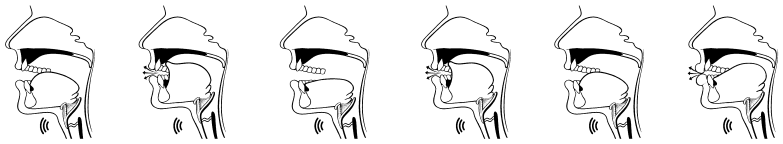
PHRASE ASSIGNMENTS

Place the correct phonetic symbol in front of each formation:

Group Exercise



1.

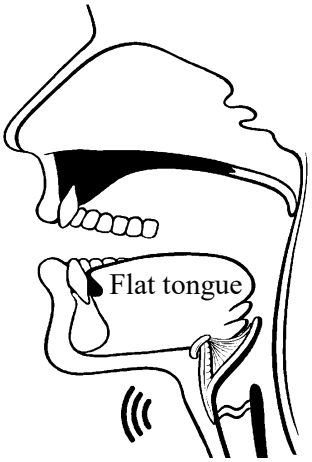


2.



3.





[ʌ]/[x]

c<u>u</u>p

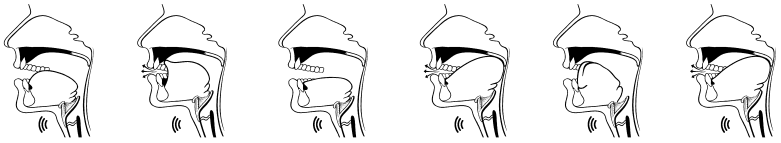
INSTRUCTIONAL NOTE

The word *a* is needed for the creation of phrases and sentences. It is a necessary sight word for beginning readers. The phonetic symbol for *a* is [ʌ]/[x] (as in c<u>u</u>p). The [ʌ] sound is the stall vowel in English. It is the sound we make when we do not know what to say. It is the only vowel that has no tongue arch. The tongue lies flat on the floor of the mouth. Compare [ʌ] to the formation of all other vowels by using an exercise called “tongue push-ups”. Alternate between [ʌ] and the particular vowel to feel the formation of the tongue and shape of the lips.

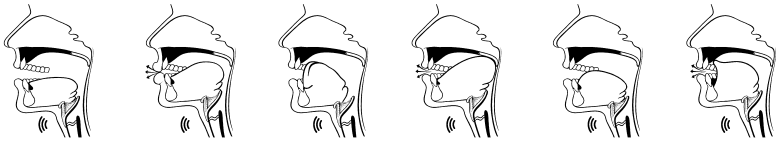
4.



5.



6.



7.



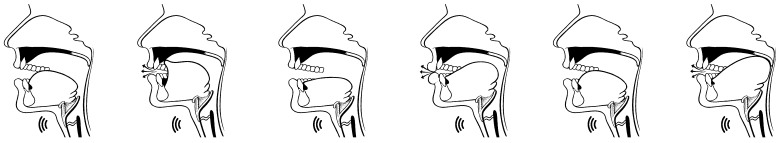
8.



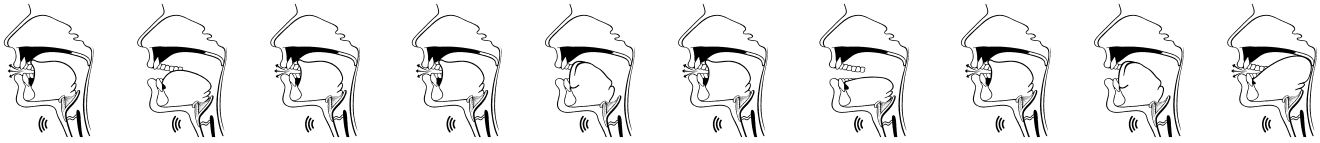
9.



10.



11.



12.



UNIT 2:

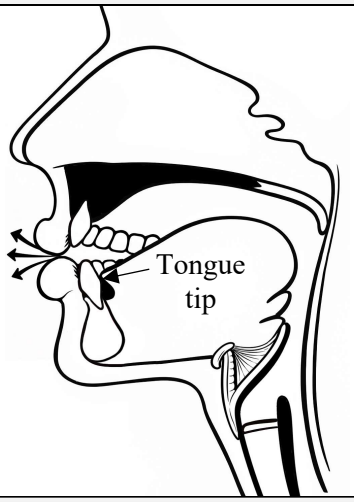
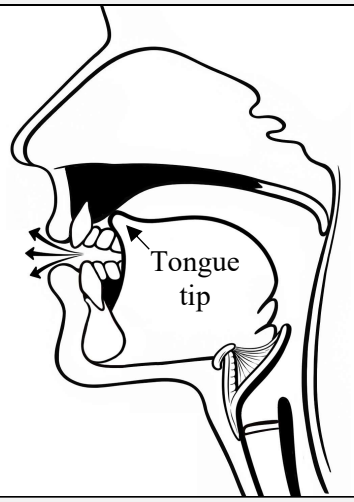
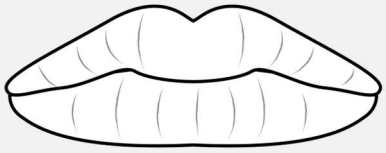
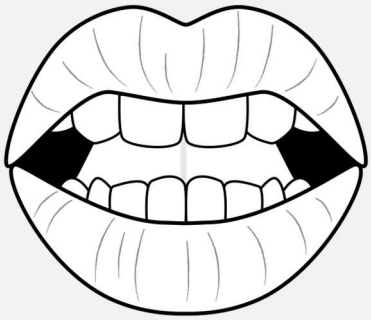
Spellings and phonetic symbols:

p [p^h], t [t^h]

TOPIC	PAGE
Instructional tools	8
Symbols and spellings	10
Presentation exercise	11
Phrase assignments	11
Instructional tools and answer key	178

Vocabulary for the phonetic test following this unit:
www.stmpublishers.com/level1vocab

INSTRUCTIONAL TOOLS

	p [p^h]/[p]	t [t^h]/[t]
MIDSAGITTAL VIEW AUDIO		
FRONT VIEW		
ARTICULATION	The lips contact while the tongue tip touches the lower front teeth. The breath is released with aspiration.	The tongue tip touches the alveolar ridge. The breath is released with aspiration.

INSTRUCTIONAL NOTE

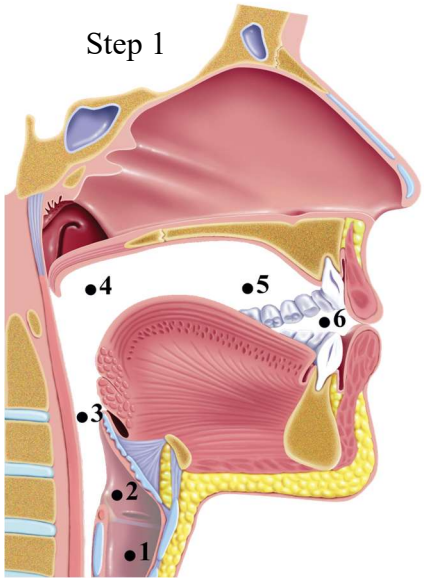
In English, a voiceless stop is released with an audible puff of air. Learners who are new to English may need to adjust to this added breath sound. In the Romance languages, the articulatory contact is released directly into the following vowel sound without aspiration.

Manner of Airflow for [b^h] and [p^h]

The bilabial stops [b^h] and [p^h] share the same point and manner of articulation. The only difference is voicing: [b^h] is voiced, while [p^h] is voiceless.

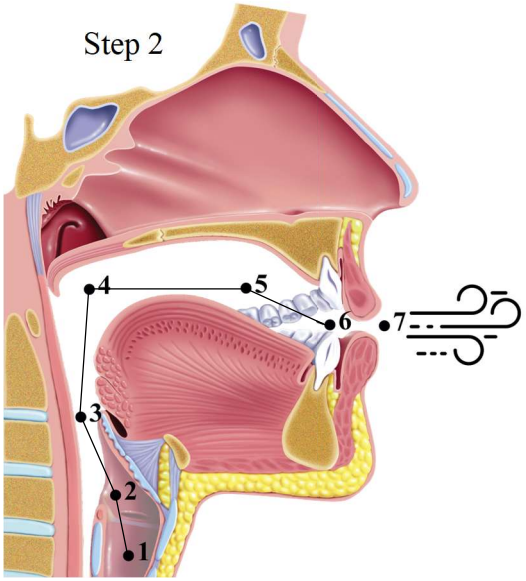
Their production occurs in two stages. First, airflow is completely blocked by full closure of the lips. Second, the lips separate and the air is released with an aspirate sound.

Step 1



Connect the dots to trace the flow of air though the vocal tract.

Step 2

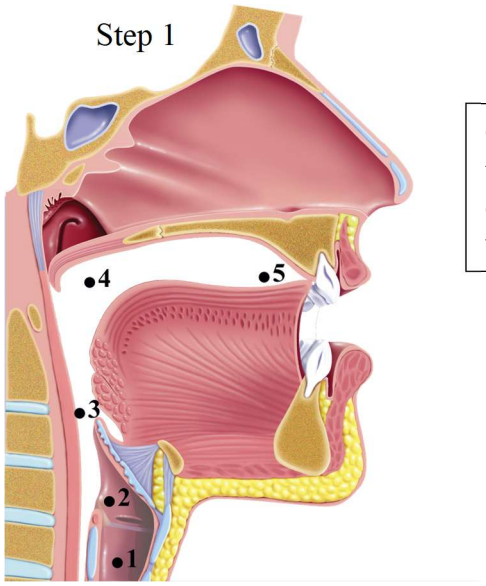


Manner of Airflow for [d^h] and [t^h]

The alveolar stops [d^h] and [t^h] share the same point and manner of articulation. The only difference is voicing: [d^h] is voiced, while [t^h] is voiceless.

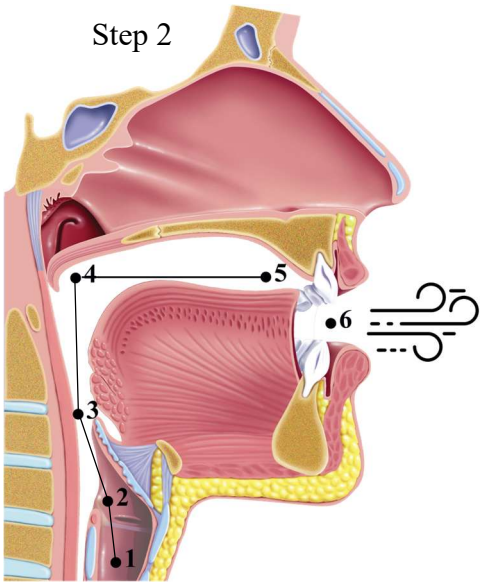
Their production occurs in two stages. First, airflow is completely blocked by full contact of the tongue tip with the alveolar ridge. Second, the tongue tip separates from the alveolar ridge and the air is released with an aspirate sound.

Step 1



Connect the dots to trace the flow of air though the vocal tract.

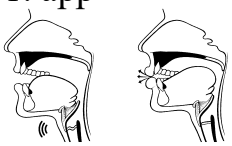
Step 2



SYMBOLS AND SPELLINGS

Place the correct phonetic symbol in front of each formation:

Articulatory Awareness
Shade in the tongue for vowels.
Shade in the lip formation for [p^h].
Shade in the tongue tip for [t^h].

1. app 

2. pad 

3. dip 

4. pig 

5. tab 

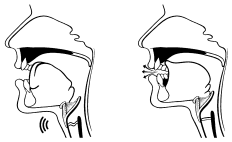
6. bat 

7. tad 

8. tag 

9. pat 

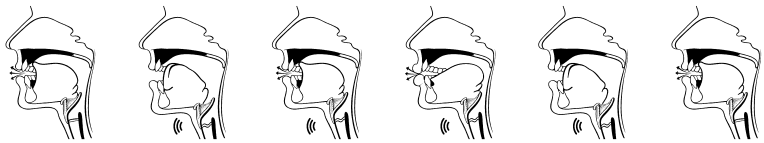
10. tap 

11. it 

12. bit 

13. pit 

14. tip 

15. tidbit 

16. tat 

PRESENTATION EXERCISE

Provide phonetic symbols and intone the following words for the class:

1. gap	4. tab	7. tip	10. pit
2. bit	5. dip	8. Pat	11. tad
3. pad	6. tap	9. tag	12. bat

PHRASE ASSIGNMENTS

Place the correct phonetic symbol in front of each formation:

Group Exercise



1.



2.



3.



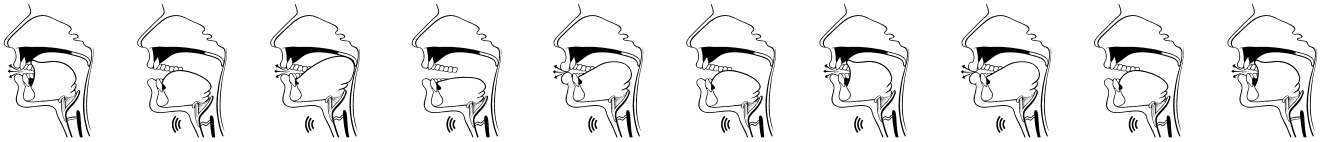
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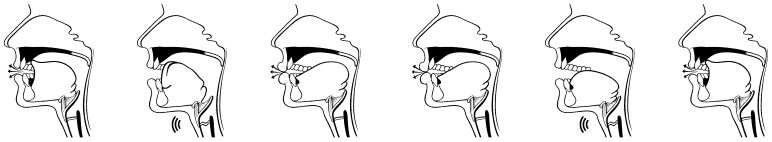
5.



6.



7.



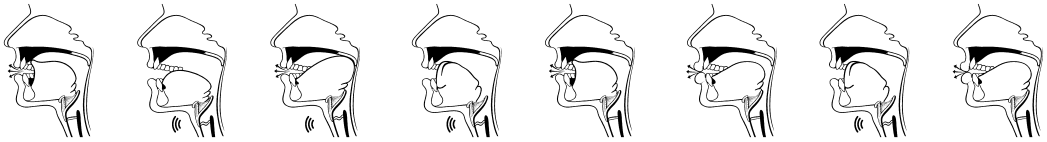
8.



9.



10.



11.



12.



INSTRUCTIONAL TOOLS AND ANSWER KEY

BASIC PRINCIPLES FOR GRADE 1 BRAILLE

The first three units of this text introduce the most frequently occurring vowels with consonant sounds that are classified as stops. A stop is formed by constricting and releasing the air flow within the vocal tract: *b, d, g, p, t, k*. Consonants classified as continuants are introduced in the following units. A continuant is a consonant articulated with a continuous flow of breath.

PHONETIC SYMBOLS

Understanding the correlation between spelling and pronunciation is vital to literacy. The International Phonetic Alphabet (IPA) provides a standardized phonetic system for all languages. This text uses a simplified phonetic system that is ideal for beginning braille readers. Braille phonetic symbols are placed between forward slashes. A forward slash is a dots 34 cell.

The scent, tactile, taste, and sound examples on the chart below provide alternate associations since visual cues are not possible. Associations are a fun part of the lesson for students of any age.

BRAILLE INSTRUCTIONAL TOOLS

ALPHABET LETTER	a Dots 1	i Dots 24	b Dots 12	d Dots 145	g Dots 1245
BRAILLE PHONETIC SYMBOL	/a/	/I/	/b/	/d/	/g/
SOUND EXAMPLE	bit.ly/3HqoYTZ	bit.ly/3wL9xkk	bit.ly/3wNILaY	bit.ly/3DVi6NF	bit.ly/3JQ0yGv
SCENT ASSOCIATION	apple pie	incense	bacon	dogwood	garlic
TACTILE ASSOCIATION	sand	inch ruler	bean bag	dominoes	gloves
TASTE ASSOCIATION	cranberry	mint	butterscotch	donuts	grapes
SOUND ASSOCIATION	saxophone	cymbals	banjo	doorbell	glockenspiel
CHARACTER ASSOCIATION	adventurous	inquisitive	bold	dedicated	grateful

Assign a taste or sound association for each student to share with the class throughout the semester. Essential oils, cotton balls, and a pill container can be used to create a scented phonetic chart. Details are available at: https://bit.ly/3MayfWw

BASIC PRINCIPLES FOR SIGNING LETTERS

Introduction

Letters are produced using one hand, the dominant hand, which should be used consistently. Most letters are static, while a few involve brief, controlled motion. Do not bounce the hand when transitioning from one letter to the next. The hand is held at chest height, slightly in front of the body, with fingers clearly shaped—neither collapsed nor overly tense. The second letter of duplicated letters is signed by moving the hand outward. These guidelines apply to fingerspelling, not full ASL.

Signing Uppercase and Lowercase Letters

This system distinguishes uppercase and lowercase letters through vertical location.

- Lowercase letters are produced at the standard signing location (chest height).
- Uppercase letters are produced by elevating the signing hand above the standard location.

Signing Phonetic Symbols

Signed phonetic symbols are to be placed near the face. Lowercase phonetic symbols should be signed near the mouth. Uppercase phonetic symbols should be signed near the forehead. The phonetic symbols displayed in this text are placed in brackets.

Direction and Presentation-Based Modeling

For ease of presentation, the student may face the same direction as the observers while modeling phonetic symbols. When demonstrating from the front of the room, the student may stand with their back to the class, allowing observers to copy the signs directly from the signer's perspective. This orientation matches the images in the text and reduces the need for mental mirroring. Once ready, the student may rotate the wrist so that vowel and consonant symbols can be displayed near the mouth or forehead, visually aligned with the lip and tongue formation.

FINGERSPELLING INSTRUCTIONAL TOOLS

	a [a]	i [I]	b [b]	d [d]	g [g]
PHONETIC SYMBOLS					

SYMBOLS AND SPELLINGS

Word signing: the hand is placed at chest level.
Phonetic signing: the hand is placed beside the mouth.
Uppercase letter signing: the hand is elevated.

Order of operations: sign to self, rotate wrist to sign for receiver, elevate hand for uppercase (underlined), move hand toward mouth or forehead for phonetic symbols (in brackets).

a	a	A	[a] (as in h<u>a</u>t)



Self	Rotate	Lift	Cheek

i	i	I	[I] (as in b<u>i</u>t)



Self	Rotate	Lift	Forehead

b	b	B	[b]



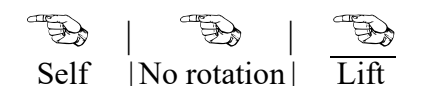
Self	Rotate	Lift	Cheek

d	d	D	[d]



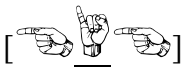
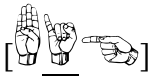
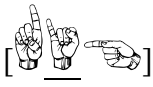
Self	Rotate	Lift	Cheek

g	g	G	[g]

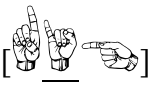
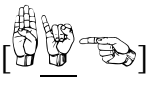


Self	No rotation	Lift	Cheek

Unit 1: Spellings and symbols

1.	ab	[æb^{h}]	[ab]	/⠁⠃/	[]
2.	ad	[æd^{h}]	[ad]	/⠁⠙/	[]
3.	dad	[d^{h}æd^{h}]	[dad]	/⠙⠁⠙/	[]
4.	add	[æd^{h}]	[ad]	/⠁⠙/	[]
5.	bad	[b^{h}æd^{h}]	[bad]	/⠃⠁⠙/	[]
6.	dab	[d^{h}æb^{h}]	[dab]	/⠙⠁⠃/	[]
7.	bag	[b^{h}æg^{h}]	[bag]	/⠃⠁⠛/	[]
8.	gag	[g^{h}æg^{h}]	[gag]	/⠛⠁⠛/	[]
9.	gab	[g^{h}æb^{h}]	[gab]	/⠛⠁⠃/	[]
10.	bib	[b^{h}ɪb^{h}]	[bIb]	/⠃⠊⠃/	[]
11.	did	[d^{h}ɪd^{h}]	[dId]	/⠙⠊⠙/	[]
12.	bid	[b^{h}ɪd^{h}]	[bId]	/⠃⠊⠙/	[]
13.	gig	[g^{h}ɪg^{h}]	[gIg]	/⠛⠊⠛/	[]
14.	big	[b^{h}ɪg^{h}]	[bIg]	/⠃⠊⠛/	[]
15.	dig	[d^{h}ɪg^{h}]	[dIg]	/⠙⠊⠛/	[]
16.	Gib	[g^{h}ɪb^{h}]	[gIb]	/⠛⠊⠃/	[]

Unit 1: Presentation exercise

1.	dad	[dʰædʰ]	[dad]	/⠙⠁⠙/	[]
2.	gag	[gʰægʰ]	[gag]	/⠛⠁⠛/	[]
3.	bib	[bʰɪbʰ]	[bIb]	/⠃⠊⠃/	[]
4.	bag	[bʰægʰ]	[bag]	/⠃⠁⠛/	[]
5.	dig	[dʰɪgʰ]	[dIg]	/⠙⠊⠛/	[]
6.	bid	[bʰɪdʰ]	[bId]	/⠃⠊⠙/	[]
7.	dab	[dʰæbʰ]	[dab]	/⠙⠁⠃/	[]
8.	big	[bʰɪgʰ]	[bIg]	/⠃⠊⠛/	[]
9.	bad	[bʰædʰ]	[bad]	/⠃⠁⠙/	[]
10.	did	[dʰɪdʰ]	[dId]	/⠙⠊⠙/	[]
11.	add	[ædʰ]	[ad]	/⠁⠙/	[]
12.	gab	[gʰæbʰ]	[gab]	/⠛⠁⠃/	[]

Unit 1: Phrase assignments

Example Dad did a gig [dʰædʰ dʰɪdʰ ʌ gʰɪgʰ]

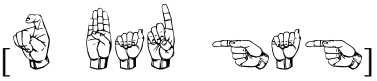
[dad dId x gIg]

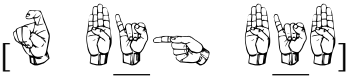
/⠙⠁⠙ ⠙⠊⠙ ⠭ ⠛⠊⠛/

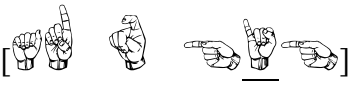
[]

1. Add a dab [æd^{h} ʌ d^{h}æb^{h}]
   [ad x dab]
   /⠐⠁ ⠁ ⠐⠁⠃/
   []

2. A big bag [ʌ b^{h}ɪg^{h} b^{h}æg^{h}]
   [x bIg bag]
   /⠐ ⠃ ⠐⠃ ⠃⠁/
   []

3. A bad gag [ʌ b^{h}æd^{h} g^{h}æg^{h}]
   [x bad gag]
   /⠐ ⠃ ⠃⠁ ⠃⠁/
   []

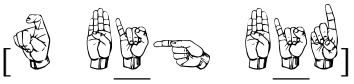
4. A big bib [ʌ b^{h}ɪg^{h} b^{h}ɪb^{h}]
   [x bIg bIb]
   /⠐ ⠃ ⠐⠃ ⠃⠃/
   []

5. Add a gig [æd^{h} ʌ g^{h}ɪg^{h}]
   [ad x gIg]
   /⠐⠁ ⠁ ⠁⠐⠃/
   []

6. A big ad [ʌ b^{h}ɪg^{h} æd^{h}]
   [x bIg ad]
   /⠐ ⠃ ⠐⠃ ⠁⠃/
   []

7. Dab a bib [d^{h}æb^{h} ʌ b^{h}ɪb^{h}]
   [dab x bIb]
   /⠐⠁⠃ ⠁ ⠃⠐⠃/
   []

8. A bad dig [ʌ bʰædʰ dʰɪgʰ]
[x bad dIg]
/⠭ ⠁⠃⠁⠙ ⠙⠊⠛⠭/


9. A big bid [ʌ bʰɪgʰ bʰɪdʰ]
[x bIg bId]
/⠭ ⠃⠊⠛⠭ ⠃⠊⠙⠭/


10. Add a bag [ædʰ ʌ bʰægʰ]
[ad x bag]
/⠁⠙ ⠭ ⠃⠁⠛⠭/


11. Dad did a dig [dʰædʰ dʰɪdʰ ʌ dʰɪgʰ]
[dad dId x dIg]
/⠙⠁⠙ ⠙⠊⠙⠭ ⠭ ⠙⠊⠛⠭/


12. Bag a bib [bʰægʰ ʌ bʰɪbʰ]
[bag x bIb]
/⠃⠁⠛⠭ ⠭ ⠃⠊⠃⠭/


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